1. Simplify the expression below and choose the interval the simplification is contained within.

$$15 - 20 \div 7 * 13 - (11 * 14)$$

  A. $[-140.22, -134.22]$

  B. $[-181.14, -174.14]$

  C. $[168.78, 170.78]$

  D. $[-466, -460]$

  E. None of the above

2. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{9025}{361}}$$

  A. Whole

  B. Integer

  C. Irrational

  D. Not a Real number

  E. Rational

3. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-54 + 88i}{3 - 4i}$$

  A. $a \in [-514.5, -513.5]$ and $b \in [1.5, 2.5]$

  B. $a \in [7, 8.5]$ and $b \in [19, 20]$

  C. $a \in [-19, -17]$ and $b \in [-22.5, -21.5]$

  D. $a \in [-21.5, -19.5]$ and $b \in [47.5, 48.5]$

E. $a \in [-21.5, -19.5]$ and $b \in [1.5, 2.5]$

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4. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(9 - 8i)(-4 + 3i)$$

A. $a \in [-65, -55]$ and $b \in [-5, -2]$

B. $a \in [-40, -27]$ and $b \in [-28, -19]$

C. $a \in [-15, -5]$ and $b \in [57, 61]$

D. $a \in [-65, -55]$ and $b \in [5, 6]$

E. $a \in [-15, -5]$ and $b \in [-59, -56]$

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5. Choose the **smallest** set of Complex numbers that the number below belongs to.
$$\frac{-20}{2} + 49i^2$$

A. Rational

B. Nonreal Complex

C. Not a Complex Number

D. Irrational

E. Pure Imaginary

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6. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(10 - 6i)(2 + 4i)$$

A. $a \in [41, 47]$ and $b \in [-29, -25]$

B. $a \in [17, 23]$ and $b \in [-25, -18]$

C. $a \in [41, 47]$ and $b \in [24, 29]$

D. $a \in [-6, -1]$ and $b \in [50, 53]$

E. $a \in [-6, -1]$ and $b \in [-53, -51]$

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7. Simplify the expression below and choose the interval the simplification is contained within.

$$6 - 12^2 + 2 \div 16 * 17 \div 13$$

A. $[-137.91, -137.54]$

B. $[149.66, 150.07]$

C. $[150.15, 150.24]$

D. $[-138.24, -137.98]$

E. None of the above

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8. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$-\sqrt{\frac{324}{625}} + 25i^2$$

A. Pure Imaginary

B. Irrational

C. Not a Complex Number

D. Nonreal Complex

E. Rational

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9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{27 - 11i}{4 + 8i}$$

A. $a \in [6.5, 8]$ and $b \in [-2, 0.5]$

B. $a \in [-0.5, 0.5]$ and $b \in [-261.5, -258.5]$

C. $a \in [18.5, 20.5]$ and $b \in [-4, -2.5]$

D. $a \in [1.5, 3.5]$ and $b \in [1, 4.5]$

E. $a \in [-0.5, 0.5]$ and $b \in [-4, -2.5]$

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10. Choose the **smallest** set of Real numbers that the number below belongs to.
$$\sqrt{\frac{36}{529}}$$

A. Whole

B. Rational

C. Irrational

D. Not a Real number

E. Integer